Patent Claims

1. Abrasive particles from the group of conventional abrasive particles that comprises in particular fused or sintered corundums, zirconium corundums, silicon carbides and boron carbide, with the abrasive particles being equipped with a sheathing consisting of an aqueous binding agent and a complex fine grained oxide compound, characterized by the fact that the complex fine grained oxide compound is of the composition $A_xB_yO_z$ and that A_x and B_y each involve one or several elements from a group of elements A or, respectively, from a second group of elements B and O_2 involves oxygen that is present in the stoichiometric ratio to A_x and B_y, with x and y being natural numbers >0 and z corresponding to a product of the sum of (x+y) and a factor between 1.5 and 2.5.

2. Abrasive particles in accordance with Claim 1 characterized by the fact that a silicate binder is being utilized.

3. Abrasive particles in accordance with Claim 2, characterized by the fact that colloidal silicic acid is used as silicate binder.

4. Abrasive particles in accordance with one or several of Claims 1 through 3, characterized by the fact that the group of elements A concerns the group of metals in the periodic system of elements.

5. Abrasive particles in accordance with Claim 4, characterized by the fact that the complex fine grained oxide compound of the general composition $A_xB_yO_z$ contains at least one element from the group of metals in the periodic system of elements.

6. Abrasive particles in accordance with Claims 4 or 5, characterized by the fact that the elements from the group of metals concern titanium, zirconium, iron, cobalt and/or nickel.

7. Abrasive particles in accordance with one or several of Claims 1 through 3, characterized by the fact that the group of elements B concerns the group of amphoteric elements in the periodic system of elements.

8. Abrasive particles in accordance with Claim 7 characterized by the fact that the complex fine grained oxide compound $A_xB_yO_z$ contains at least one element from the group of amphoteric elements in the periodic system of elements.

9. Abrasive particles in accordance with Claim 7 or 8, characterized by the fact that the elements from the group of amphoteric elements concern vanadium, chromium, manganese, zinc, tin and/or antimony.

10. Abrasive particles in accordance with one or several of Claims 1 through 9, characterized by the fact that the sheathing contains 0.05 – 5.0 weight % of a complex fine grained oxide compound relative to the mass of the untreated particle.

11. Abrasive particles in accordance with one or several of Claims 1 through 10, characterized by the fact that the sheathing preferably contains 0.1 – 2.0 weight % of a complex fine grained oxide compound relative to the mass of the untreated particle.

12. Abrasive particles in accordance with one or several of Claims 1 through 11, characterized by the fact that the sheathing contains a binding agent portion of 0.05 – 2.0 weight % relative to the mass of the untreated particle.

13. Abrasive particles in accordance with one or several of Claims 1 through 12, characterized by the fact that the binding agent portion preferably amounts to 0.1 – 1.0 weight % relative to the mass of the untreated particle.

14. Method for the treatment of abrasive particles in accordance with one or several of the aforementioned claims, characterized by the fact that the abrasive particles

i. are wetted in an initial step in a mixer with a liquid silicate binding agent,

ii. the wetted abrasive particles are admixed in a second step with a complex fine grained oxide compound of the general formula $A_xB_yO_z$ and mixed until the complex fine grained oxide compound is evenly distributed over the surface of the abrasive particles, and

iii. finally, in a third step, the thus sheathed abrasive particles are subjected to heat treatment in order to obtain a better adhesion of the sheathing.

15. Method in accordance with Claim 14, characterized by the fact that the mixing periods in Steps i) and ii) each amount to 0.5 and 5 minutes.

16. Method in accordance with Claims 14 or 15, characterized by the fact that the heat treatment is carried out at temperatures between 100 and 900° C.

17. Synthetic resin-bound abrasives, such as, for example, abrasive belts, abrasive papers and abrasive discs, made with abrasive particles in accordance with one or several of Claims 1 through 13.